UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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January 29, 2001

Florida Power and Light Company
ATTN: Mr. T. F. Plunkett
President - Nuclear Division
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: TURKEY POINT NUCLEAR PLANT - NRC INSPECTION REPORT 50-250/00-05 AND 50-251/00-05

Dear Mr. Plunkett:

On December 30, 2000, the NRC completed an inspection at your Turkey Point 3 & 4 reactor facilities. The enclosed report documents the inspection findings which were discussed on January 3, 2001, with Mr. R. Hovey and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green).

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). Adams is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Leonard D. Wert, Chief
Reactor Projects Branch 3
Division of Reactor Projects

Docket Nos. 50-250, 50-251
License Nos. DPR-31, DPR-41

Enclosure: Inspection Report 50-250/00-05, 50-251/00-05
w/attached NRC's Revised Reactor Oversight Process

cc w/encl: (See page 2)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-250, 50-251
License Nos:	DPR-31, DPR-41
Report No:	50-250/00-05, 50-251/00-05
Licensee:	Florida Power & Light Company (FPL)
Facility:	Turkey Point Nuclear Plant, Units 3 & 4
Location:	9760 S. W. 344th Street Florida City, FL 33035
Dates:	October 1 - December 30, 2000
Inspectors:	C. Patterson, Senior Resident Inspector J. R. Reyes, Resident Inspector S. Vias, Senior Reactor Inspector (Sections 1R02, 1R17) R. Chou, Reactor Inspector (Sections 1R02 1R17) J. Coley, Reactor Inspector (Sections 1R02, 1R17) G. Kuzo, Senior Radiation Specialist (Sections 20S1, 20S2, 20S3) S. Rudisail, Project Engineer (Sections 1R06, 1R07) D. Thompson, Security Specialist (Section 3PP3)
Approved by:	L. Wert, Chief Reactor Projects Branch 3 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000250-00-05, IR 05000251-00-05 on 10/01-12/30/00, Florida Power & Light, Turkey Point Nuclear Power Plant, Units 3 & 4. One inspector identified finding in the area of response to contingency events.

The inspection was conducted by resident inspectors, a regional senior radiation specialist, a regional security specialist, a regional project engineer, and three regional reactor inspectors. One green finding was identified by the inspectors. The significance of the finding is indicated by its color (Green), which was determined using IMC 609 "Significance Determination Process" (see attachment, NRC's Revised Reactor Oversight Process).

A. Inspector Identified Findings

Cornerstone: Physical Protection

Green. During the conduct of table-top drills, the inspectors identified issues with deployment strategies and target set development and concluded that some equipment is not fully protected by the currently established protective strategy.

The issue was of very low safety significance because it involved vulnerabilities in safeguards plans identified through table top drills and no actual security incident or threat occurred. (Section 3PP3.4)

B. Licensee Identified Violations

One violation of very low safety significance which was identified by the licensee was reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in section 4OA7 of this report.

Report Details

Summary of Plant Status: Unit 3 operated at full power until November 13, 2000, when power was reduced to 40% for turbine valve testing. Power was returned to full power on November 15, 2000, and remained at full power the remainder of the report period.

Unit 4 was in a refueling outage from September 25, 2000, until October 23, 2000. The unit operated at full power the remainder of the period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity (Reactor - R), Emergency Preparedness (EP)

1R02 Evaluations of Changes, Tests or Experiments

a. Inspection Scope

The inspectors reviewed selected samples of safety evaluations to verify that the licensee had appropriately considered the conditions under which changes to the facility or procedures may be made, and tests conducted, without prior NRC approval. The inspectors reviewed safety evaluations for eleven design and procedure changes. The inspectors verified, through review of additional information, such as calculations and supporting analyses, that the licensee had appropriately concluded that the changes could be accomplished without obtaining a license amendment. The 11 safety evaluations reviewed were as follows:

JPE-M-87-136, Rev 1	Component Cooling Water (CCW) Basket Strainer Backfilling
JPN-PTN-SENP-95-007, Rev 2&4	Operability of Residual Heat Removel (RHR) during Integrated Safeguards Testing
PTN-ENG-SECS-97-061, Rev 1	Containment Polar Crane Maintenance Inspection Procedure
PTN-ENG-SENS-98-063, Rev 0&1	Freeze Seal for Reactor Coolant Pump Seal Injection Nozzle Inlet Flanges
PTN-ENG-SENS-98-072, Rev 0	Installation and Operation of Feedwater Ultrasonic Flow Monitoring Equipment
PTN-ENG-SENS-99-024, Rev 0&1	Leak Inspection of RHR Recirculation Flow Paths
PTN-ENG-SEMS-99-035, Rev 0	Alternate RHR Flow Path and other Plant Conditions to Support MOV-4-865B Repair Activities
PTN-ENG-SENS-99-072, Rev 0	Manual Actions to Realign 3D/4D Bus for Loss of Offsite Power (LOOP) Operability in Mode 6
PTN-ENG-SEMS-00-007, Rev 0	Spent Fuel Pool (SFP) Temperatures During Offload Starting Before 50 Hours
PTN-ENG-SENS-00-058, Rev 0	On-Line replacement of the 4B RHR Pump Shaft Seal
PTN-ENG-SENS-00-073, Rev 0	Use of Freeze Seal on the Auxiliary Feedwater (AFW) Pump Minimum Flow Recirculation Piping

The inspectors also reviewed samples of Plant Change/Modifications (PC/Ms) and procedure changes for which the licensee had determined that evaluations were not required, and verified that the licensee's conclusions to "screen out" these changes were correct and consistent with 10 CFR 50.59. The 17 "screened out" or Minor Engineering Package (MEP) changes reviewed were as follows:

PC/M	Title
94-138	Charging Pump Task Team Modifications
95-176	CV-4-2200 and CV-4-2203 Control Loop Enhancements
98-004	Emergency Diesel Generator (EDG) Duplex Fuel Filter Replacement
98-006	Reactor Trip Breaker & Emergency Diesel Generator Fuel Transfer Pump Indicating light Resistors
98-022	CCW Hx Temperature Monitoring Modifications
98-030	Charging Pumps Startup Time Delay
99-002	Unit 3 Containment Personnel Hatch Entry Enhancements
99-005	Set point Methodology Drawing Revision for Low Pressurizer Pressure
99-023	Miscellaneous Containment Enhancements
99-024	Installation of Primary Chemistry Sample Room Bottle Racks and Modification of the Unit 3 Train 2 AFW Nitrogen Bottle Rack
99-029	Unit 3 Safety Injection (SI) Test Line Integral Plug
99-031	Process Radiation Monitoring System (PRMS) R-3-11/R-3-12 Heat Tracing
99-048	Refueling Water Storage Tank (RWST) Level Scaling and Indication Enhancement
99-060	U3 Steam Generator Feedring Modification Project

Procedure	Title
0-SME-104.1	Self Contained, Battery Powered, Emergency Lighting Quarterly Performance Test, 1/4/00
3-OP-061.7	Flushing Spent Resin From Chemical Volume Control System (CVCS) Demineralizer, 1/4/00
3-OP-074	Steam Generator Feedwater Pump, 2/18/00

The inspectors reviewed the licensee's corrective action program and noted that no significant problems had been identified in the area of 10 CFR 50.59 evaluations.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors verified, by partial walkdown or detailed walkdown inspections, the alignment of redundant trains/systems when the other train/system was out-of-service. The inspectors reviewed the licensee's flow path verification procedure, Updated Final Safety Analysis Report (UFSAR) system description, and system drawings to determine the system was correctly lined up. The inspectors reviewed system flow path and

electrical procedures and compared them to system prints. Verifications of actual breaker and valve positions and locks were performed in the field. Outstanding plant work orders on the systems were also reviewed to verify systems were not made inoperable as a result of degraded components.

- 4A EDG while performing periodic preventive maintenance on 4B EDG.
- 4A Control Rod Drive Motor -Generator (MG) set while performing overhaul on the 4B MG set.
- 4B High Head Safety Injection Pump (HHSI) while the 4A pump was being overhauled.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured areas important to safety to observe the fire protection detection and suppression equipment operational status, control of transient combustibles, and material conditions. The material condition and operation status of fire barriers were also examined. The inspectors reviewed procedures 0-SME-091.1, Fire and Smoke Detection System Annual Test, 0-ADM-016, Fire Protection Program, and 0-ADM-016.1, Transient Combustible and Flammable Substances Program. The inspectors reviewed the status of work orders for fire door impairments. The following areas were inspected:

- Unit 4A and 4B EDG Air Receiver Rooms
- Unit 3D and 4D 4160-Volt Switchgear Rooms
- Unit 4A and 4B EDG Control Panel Rooms
- Unit 3 and Unit 4 Control Room
- Unit 3 and Unit 4 Charging Pump Rooms
- Unit 3 and Unit 4 RHR Pump Rooms
- Unit 3 and Unit 4 RHR Heat Exchanger Rooms

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

a. Inspection Scope

The inspector reviewed UFSAR Section 3.4, Water Level (Flood) Design, including related figures and drawings, Procedure 0-ONOP-103.3, Severe Weather Preparations; and Emergency Preparedness Administrative Directive, Hurricane Procedure Preparation; to identify areas that may be affected by internal or external flooding, design flood levels, and protection features for areas containing safety-related equipment. The inspector then verified that flooding mitigation structures and

equipment were consistent with the design requirements. The inspector walked down various areas protected for flooding, and reviewed flood protection measures for the 4160 Volt switchgear rooms and the EDG rooms. The inspector interviewed various personnel knowledgeable of flood protection measures. The inspector reviewed Condition Reports (CRs) related to flooding events and flood protection. The inspector also reviewed corrective actions for past flooding issues to verify the adequacy of corrective actions.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

The inspector selected the risk important heat exchangers (HX) for evaluation. The components reviewed were the CCW HX and the ICW basket strainers. The inspector verified: selected heat exchanger test methodology was consistent with accepted industry practices, or equivalent; test conditions were appropriately considered; test criteria were appropriate and met; test results appropriately considered differences between testing conditions and design conditions; test frequency was appropriate; and, test results considered test instrument inaccuracies and differences.

The inspector reviewed routine inspection/cleaning data for the CCW HX selected. For CCW HX inspection/cleaning, the inspectors reviewed the methods and results of heat exchanger/sink performance inspections. The inspector reviewed procedure 0-PMM-030.1, Component Cooling Water heat Exchanger Cleaning and procedure 3-OSP-030.4, Component Cooling Water Heat Exchanger Performance Test. The inspector verified the following: established acceptance criteria were consistent with accepted industry standards, or equivalent (Generic Letter 89-13, Service Water System Problems Affecting Safety-Related Equipment); and as-found results were appropriately dispositioned such that the final condition was acceptable.

b. Findings

No findings of significance were identified.

1R11 Licenced Operator Requalification

a. Inspection Scope

The inspectors observed operator performance on the simulator during performance of emergency drills on November 14, 2000. The inspectors verified that emergency classifications were made in accordance with emergency plans and operators conducted the emergency operating procedures correctly. The inspectors verified that the drill critique included observed deficiencies.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors assessed the effectiveness of the licensee's maintenance efforts that apply to structures, systems, and components scoped into the maintenance rule, and verified procedural requirements specified in procedure 0-ADM 728, Maintenance Rule Implementation. The inspector reviewed the characterization of failures, safety significance classifications, and the appropriateness of performance criteria and corrective actions. The inspectors reviewed details of component failures with the responsible system engineers. The equipment problems reviewed were:

- CR 00-1795 Emergency Containment Filters
- CR 00-2130 4CD Instrument Air Compressor Failure
- CR 00-1672 RHR Flow Control Valve FCV-4-605
- CR 00-1908 RHR Flow Control Valve HCV-4-758
- CR 00-2373 U3 Diesel Instrument Air Compressor Trips
- CR 00-2346 The 4A HHSI pump rework.
- CR 00-2013 Loss of Unit 4 Startup Transformer
- CR 00-1708 Switchyard Breaker Control Cable Faulted

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following emergent items, as described in the referenced CRs or work orders (WOs). The inspectors verified that the emergent work activities were adequately planned and controlled, as described in 0-ADM-210, On-Line Maintenance/Work Coordination and O-ADM-225, On Line Risk Assessment and Management. The inspectors verified that, as appropriate, contingencies were in place to reduce risk, minimize time spent in increased risk configurations, and to avoid initiating events.

CR 00-1638 Root Cause Of Failed Fuel Assembly Identified During Refueling Outage.
CR 00-1672 RHR Flow Control Valve FCV-4-605
CR 00-1908 RHR Flow Control Valve HCV-4-758
CR 00-2127 Unit 3 HHSI Discharge Header Venting
CR 00-2353 HHSI pump Inboard bearing seized during initial start following seal replacement
CR 00-2013 Loss of Unit 4 Startup Transformer

b. Findings

No findings of significance were identified.

1R14 Non-routine Plant Evolutions

a. Inspection Scope

A scheduled Unit 3 downpower evolution was conducted on November 13 - 15, 2000, to perform turbine valve testing and heat exchanger cleaning. The inspectors reviewed operator response to verify proper performance and verified that identified problems were entered into the corrective action program.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed selected operability evaluations affecting mitigating systems and barrier integrity to determine that operability was justified and no unrecognized increase in risk had occurred. The inspectors verified adherence to procedural requirements as described in 0-ADM-518, Condition Reports. The inspectors also verified compliance with Technical Specification action statements. All operability issues were verified to have been entered into the licensee's corrective action program. Where applicable, corrective actions for inoperable equipment were reviewed upon completion, and compensatory measures were verified to be appropriately controlled. The evaluations reviewed were:

- CR 00-1712 Unit 4 Nuclear Instrumentation System Source Range Detectors
- CR 00-1638 Fuel Assemblies (Failed Fuel)
- CR 00-1608 Fuel Top Nozzles
- CR 00-2027 Hawk inside Containment
- JPN-PTM-SEMS-96-003 Unit 4 Steam Generators' Secondary Side Foreign Objects
- CR 00-1672 RHR Flow Control Valve FCV-4-605
- CR 00-1908 RHR Flow Control Valve HCV-4-758
- CR 00-2357 Low Oil Level in Governor Sight Glass of 'A' AFW Pump
- CR 00-2345 External leakage of pressurizer steam space sample test connection

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors evaluated Plant Change/Modifications (PC/Ms) or Engineering Packages (EPs) for 21 modifications in three cornerstone areas, to verify that the modified systems' designs had not been degraded, and that the modifications had not left the plant in an unsafe condition. The inspectors verified inspection procedure components such as: energy requirements can be supplied by supporting systems; materials and replacement components are compatible with physical interfaces; replacement components are seismically qualified for application; Code and safety classification of replacement system, structures, and components were consistent with design bases; the appropriateness of modification design assumptions; that post-modification testing would establish operability; those failure modes introduced by the modification are bounded by existing analyses; and that appropriate procedures or procedure changes have been initiated. For selected modification packages, the inspectors verified that the as-built configuration accurately reflected the design documentation.

The inspectors also reviewed additional information as necessary such as applicable sections of the UFSAR, the living UFSAR, supporting analyses, Technical Specifications, drawings and procedures.

The inspectors reviewed the following PC/Ms:

PC/M	Title
95-126	Deletion of Indoor Electrical Raceway Fire-Proofing Requirements
96-014	Thermo-Lag Overlay Upgrades for Indoor Fire Zones (Units 3/4)
96-092	Unit 3 Addition of CCW Head Tank
96-093	Unit 4 Addition of CCW Head Tank
97-003	Thermal Overpressurization of Isolated Piping
97-021	Safety Injection Pipe Venting Modification (Unit 3)
97-022	Safety Injection Pipe Venting Modification (Unit 4)
97-031	Fire Piping Upgrades
97-033	Elimination of Electronic Trip to Auxiliary Feedwater Turbines (Units 3/4)
98-005	Auxiliary Feedwater Control Valve Instrument Air Supply Filters (Units 3/4)
98-017	Replacement of Containment Purge Valve Actuators POV-3-2600 & POV-3-2601 (Unit 3)
98-024	Replacement of PRT Level Transmitter LT-3-470
98-028	Replacement of Unit 3 Diesel Oil Transfer Piping
98-049	MOV - Enhancement - Limitorque Technical Update 98-01 (Unit 4)
98-051	Intake Structure Bay Walls Cathodic Protection Installation (Unit 4)
99-001	AFW Train 2 Steam Header Mod (Units 3/4)
99-009	Fire Barrier 047F Restoration
98-016	Bonnet Equalizing Lines for MOV-3-744A and MOV-3-744B
99-019	MOV - Enhancement - Limitorque Technical Update 98-01 (Unit 3)
99-045	Atmospheric Dump Valve Air/Nitrogen Supply Enhancements
00-009	Steam Generator Tube Stabilizer and Tube Plug

The inspectors also reviewed the results of various licensee self assessments or audits in the area of design change process including:

- Request for Engineering Assistance (REA) Process Self Assessment Report, December 30, 1999
- Nuclear Engineering Audit Design and Configuration Control, QAS-ENG-99-1, August 25, 1999
- Evaluation of PTN Engineering Item Equivalency Evaluations, ENG-00-004, August 7, 2000

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

For the post-maintenance tests listed below, the inspectors reviewed the test procedure and either witnessed the testing and/or reviewed test records to determine whether the scope of testing adequately verified that the work performed was correctly completed and demonstrated that the affected equipment was functional and operable. The inspectors reviewed the test results with the responsible system engineer and verified the post maintenance acceptance criteria were within Technical Specification requirements and UFSAR descriptions.

- 4-OP-028 4B RPS MG Set Test Run After Overhaul
- WO 30017606 RHR Flow control valve FCV-4-605
- 4-OSP-023.2 EDG 24 Full Load Test and Load Rejection
- PC/M 99-056 RHR MOV 4-744B
- 0-OSP-062.2 4A Safety Injection System Inservice Test

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed refueling and outage activities for compliance with Technical Specifications (TS). Overall outage risk control processes for the Unit 4 refueling outage were also reviewed. Selected operational evolutions and fuel movement activities were reviewed with reactor operators, reactor engineers, and control room supervisors. The inspectors verified implementation of corrective actions related to fuel movement issues in the containment and in the spent fuel pool. Fuel movement communication and controls were verified during control room observations. Selected equipment clearances associated with emergency core cooling systems were reviewed

with Operations and verified prior to mode changes. The inspectors reviewed the final core map video tape with Reactor Engineering management and verified selected assemblies were positioned as described in the final core map. The inspectors also performed an inspection of containment prior to closeout to verify readiness for reactor operations. The following activities were inspected, reviewed, or observed:

- Outage planning and risk assessment
- Unit Shutdown
- Cool down and monitoring of cool down rate
- Reduced inventory
- Fuel handling operations - Core Offload and Loading
- Core loading map verification
- Equipment clearances
- Containment closeout
- Unit startup
- Power escalations

b. Findings

No findings of significance were identified by the NRC inspectors. A licensee identified non-cited violation is addressed in Section 4OA7.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors verified by witnessing surveillance tests and/or reviewing test data, that the selected testing met the TS, the UFSAR, and licensee procedure requirements and demonstrated the SSC capable of performing their intended safety functions and their operational readiness. The inspectors discussed the testing with the control room operators and with the responsible system engineers. Selected I&C equipment used for the surveillances was verified to be within its calibration periodicity. The inspectors observed/reviewed the following surveillances:

- 4-OP-050 RHR System
- 3-OSP-202.1 SI/RHR Flowpath Verification
- 4-OSP-203.1 Train ‘A’ Engineered Safeguards Integrated Test
- 3-OSP-023.1 U3A EDG Operability Test
- 4-OSP-059.1 Source Range Nuclear Instrumentation Analog Channel Operational Test .
- 4-PMI-028.3 Rod Position Indication HST Calibration, Control Rod Drive Mechanism Stepping Test, and Rod Drop Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed temporary modifications to verify that the modification did not affect the safety function of risk significant systems, the modification was installed as required by plant documents, and the 10 CFR 50.59 screening evaluations appropriately considered UFSAR information. The inspectors reviewed the installed modification against drawings and verified the impact on plant procedures had been evaluated.

- TSA 3-00-50-9 Removable Stem Lock on Valve HCV-3-758
- TSA 3-00-1-2 Plant Pager Modification
- TSA 3-00-59-7 Temporary Power "D" Flux Map

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors attended the fourth Quarter Emergency Preparedness Drill which was held on November 14, 2000, and observed the drill activities in the Operations Support Center and the Control Room Simulator. Additionally, the inspectors reviewed the drill scenario relating to the technical aspects of the failed equipment, and followed the licensee's emergency classifications, notifications and protective action requirements development activities. The inspectors attended the drill critique which was held after the drill and reviewed the final drill critique reports.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

Radiological controls for the following Unit 4, Refueling Outage activities were reviewed:

- Radiation Work Permit (RWP) 00-4075, Unit 4 Containment, Steam Generator Eddy Current/Remote Tube Plugging/ HP Surveys/ and Install/Remove Nozzle Covers.
- RWP 00-4050, Unit 4 Containment, All Reactor Coolant Pump Work

- RWP 00-4077, Unit 4 Containment, Steam Generator Sludge Lance and Bundle Flush (Secondary Side) Including Support Work
- RWP 00-4121, Unit 4 Containment, Inspect/Repair/Maintain Refueling Equipment, Move Fuel, Latch/Unlatch Control Rods, Search & Retrieval Activities
- RWP 00-4139, Unit 4 Containment, Remove/Replace Reactor Head and Upper Internals

For the subject tasks, the inspectors reviewed administrative and engineering controls for high radiation, locked-high radiation, and very high radiation areas. The reviews included, where applicable, verification of physical and administrative controls, and direct observation of pre-job briefings, work-in-progress, and Health Physics job coverage. Radiation surveys results for Unit 4 containment piping and work areas, and for auxiliary building areas during fuel reload were verified. Controls implemented for areas having significant dose rate gradients, transient high dose-rates, or potential for elevated airborne radioactive material concentrations were reviewed. In addition, the inspector reviewed selected condition reports associated with high radiation, and locked high radiation areas initiated during the current Unit 4 refueling outage. Licensee activities were reviewed against TS and 10 CFR Part 20 requirements.

b. Findings

No findings of significance were identified.

2OS2 "As Low As Reasonably Achievable" Program Planning and Controls

a. Inspection Scope

The inspectors reviewed the plant collective exposure history, current exposure trends and ongoing high dose-rate and high person-rem exposure activities. Site-specific trends in collective exposures and source-term data were reviewed and discussed. Licensee dose reduction initiatives and program for estimating and tracking department and job-specific dose expenditures were reviewed. Engineering controls were verified. Worker performance and knowledge, health physics technician proficiency, and supervisory oversight in reducing occupational dose during the current Unit 4 refueling outage were evaluated. Licensee "As Low As Reasonably Achievable" Program job evaluations, and estimated dose budgets were compared with actual dose expenditures.

The following Radiation Work Permits (RWPs) were reviewed and discussed in detail.

- RWP 00-4075, Unit 4 Containment, Steam Generator Eddy Current/Remote Tube Plugging/ HP Surveys/ and Install/Remove Nozzle Covers.
- RWP 00-4050, Unit 4 Containment, All Reactor Coolant Pump Work
- RWP 00-4077, Unit 4 Containment, Steam Generator Sludge Lance and Bundle Flush (Secondary Side) Including Support Work
- RWP 00-4011, Unit 4 Containment, Remove/Repair/Replace/ Re-pack Valves or Flanges.
- RWP 00-4136, Detension/ Remove/ Clean/Install/Tension Reactor Head Studs/ Guide Studs/ Stud Hole Plugs.

- RWP 00-510, Auxiliary Building, Inspect/Repair/Replace Valves Including Support Work.

Exposure investigation reports, internal dose calculations and radiation dose assessment records for skin and "hot particle" contamination events documented as of October 12, 2000 for Unit 4 outage activities were reviewed and evaluated. Selected CRs generated during the current outage for contaminated materials found outside the licensee's radiologically controlled area, personnel contamination evaluations, equipment surveys, and RWP issues were reviewed and evaluated. The inspector reviewed guidance documents and their implementation was reviewed against UFSAR, TS, and 10 CFR Part 20 requirements.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring and Protection Equipment

a. Inspection Scope

Availability and operability of the Post Accident Sampling System (PASS) instrumentation were evaluated. The inspectors directly observed the installed PASS equipment, and reviewed and discussed performance surveillances and calibration data conducted in accordance with 4 NCZP-094.2, Obtaining a Unit 4 PASS RCS Sample During Non-Emergency Conditions, Effective September 13, 1999.

The PASS program implementation was evaluated against the licensee's UFSAR, TS, and procedural requirements.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

3PP3 Response to Contingency Events

.1 Intrusion and Detection

a. Inspection Scope

The protected area intrusion detection system and assessment system required by the Physical Security Plan (PSP) were evaluated on October 4, 2000, to determine if vulnerabilities could be identified. Potential vulnerabilities were tested to determine if they were exploitable.

b. Findings

No findings of significance were identified.

.2 Assessment Aids

a. Inspection Scope

On October 4, 2000, the inspectors conducted an evaluation of the licensee's assessment capability. The quality of the assessment aids was evaluated against the PSP to determine if the alarm station operators could clearly recognize a threat in the intrusion detection zones. The team assessed whether the licensee's camera assessment system was capable of automated call-up of fixed closed circuit television cameras to assess alarms emanating from the protected area perimeter. The capability to assess alarms by a video capture system was evaluated.

b. Findings

No findings of significance were identified.

.3 Weapons Demonstration

a. Inspection Scope

The inspectors, in accordance with the Tactical Response Plan, evaluated the firearms proficiency by observing a range demonstration by three individuals selected by the inspection team demonstrating the licensee's tactical course of fire on October 3, 2000. The inspectors observed a weapons demonstration for three individuals to determine if they were capable of effectively engaging the targets, with three different weapons, from each type of plant defensive position including elevated positions and from behind barricades.

b. Findings

No findings of significance were identified.

.4 Table-Top Exercises

a. Inspection Scope

The inspectors conducted four table top drills with security shift supervisors to determine whether the licensee's response only included those capabilities outlined in its security plan, protective strategy, and implementing procedures. Through table top drills, the inspectors evaluated the licensee's capability to protect vital area target sets against the design basis threat, and its ability to interdict the adversary in a timely manner, with sufficient numbers of responders, appropriately armed and in protected positions.

b. Findings

Green. During the conduct of table-top drills, the inspectors identified issues with deployment strategies and target set development and concluded that some equipment is not fully protected by the currently established protective strategy. The finding was evaluated using Inspection Manual Chapter 0609 "Significance Determination Process" and it was determined to be of very low safety significance (green). The issue was of very low safety significance because it involved vulnerabilities in safeguards plans identified through table top drills, no actual security incident or threat occurred, and there were no previous findings in the past four quarters. The licensee initiated CR 00-1814 to address the issue.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors randomly selected and screened licensee records for the period of July 1999 through September 2000, relating to security loggable events, maintenance work requests and problem evaluation reports to determine if the licensee is identifying problems related to these areas, and entering them into the corrective action program.

b. Findings

No findings of significance were identified.

4 OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors confirmed the accuracy and completeness of the following performance indicators: Reactor Coolant System Activity; Reactor Coolant System Leakage; and Unplanned Power Changes Greater Than 20%. Applicable TS requirements were verified. The station performance indicator verification procedure was reviewed, as well as corrective action records, licensee event reports, outage reports, control room logs, and work controls documentation.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

.1 Loss of Offsite Power on Shutdown Unit

The inspectors reviewed the response to a loss of startup transformer on Unit 4 while in mode 3 that occurred on October 21, 2000. All four EDG's started and all three AFW

pumps started. The Unit 4 EDG supplied power to the Unit 4 shutdown busses. The inspector responded to the site and verified the licensee's recovery actions from the control room. A Notification of Unusual Event (NOUE) was declared in accordance with the emergency plan. There was no effect on Unit 3 which remained at full power. This event occurred on the shutdown unit at the end of the refueling outage prior to initial criticality. There was little decay heat. All safety equipment responded as designed. Operator response and recovery were in accordance with plant procedures. The cause of the fault was determined to be a spurious actuation of a circuit breaker backup protection relay. The cause of the fault was isolated and power restored to normal terminating the event.

The inspectors verified that the licensee's event review team dispositioned the cable issues in CR 00-2013. The length of time that the startup transformer was not available was short, equipment and operator responses were appropriate, the unit was shutdown with low decay heat, and power was available for the operating unit.

.2 (Closed) Licensee Event Report (LER) 50-251/2000-04-00, Loss of Offsite Power and Safety Injection Actuation While in Mode 3

This event is discussed in section 4OA3.1 of this report. The event was initiated by a fault in a control cable associated with a protective relay. The licensee's corrective action addressed a number of short term and long term actions to improve cable reliability. The inspectors reviewed several corrective actions from previous CRs related to cable faults to verify completion of identified corrective actions. Some of the actions such as encasement of conduits in concrete were reviewed with the system engineer in the field. This LER is closed and no violation of NRC requirements was identified.

.3 (Closed) LER 50-251/2000-03-00, Emergency Containment Filter Charcoal Failure to Meet Surveillance Acceptance Criteria

The cause of the charcoal failure to meet the acceptance criteria appears to be the age of the charcoal and application of a more stringent charcoal test method. In March 2000, the TS were updated in accordance with Generic Letter 99-02, Laboratory Testing of Nuclear - Grade Activated Charcoal. Unit 3 was tested in March 2000, during the refueling outage but Unit 4 was operating. The first Unit 4 refueling outage since revising the TS occurred in October 2000. Since specific procedure requirements such as shielding the charcoal filter banks to prevent inadvertent exposure to paint fumes, smoke, etc., are implemented during a refueling outage, no other feasible explanation could be determined for this test failure. Other possible causes such as sample contamination were discussed with the licensee but no other cause could be identified. Although the test results did not meet the surveillance acceptance criteria, the results still were within the design basis stated in the UFSAR. The licensee replaced all the charcoal in the three filters banks with new charcoal prior to entry into Mode 4.

The inspector reviewed the licensee's investigation and safety analyses, and concluded that the findings as stated in LER were reasonable. The charcoal did not meet the revised penetration test requirements, but this was not caused by any identified licensee performance deficiencies. Based on the circumstances described above, including the time of discovery, the uncertainty length of time during which condition existed, and

licensee's actions to comply with TS action statements, no violations of regulatory requirements were identified. This LER is closed.

.4 (Closed) LER 50-251/2000-02-00 and 01, Containment Ventilation System Inoperable Due to Missed Surveillance

This issue involved placing the Purge System in operation without all the requirement system testing being completed. Subsequent testing indicated that the system would have operated as designed. This issue was entered into the licensee's corrective action system as CR 00-1756. The inspector reviewed the LER and the LER revision. The LER was subsequently revised to clarify who identified the issue and that subsequent testing indicated the system would function as designed. Although a required test was not performed, this issue had no actual or credible effect on safety. The issue constitutes a violation of minor significance that is not subject to enforcement in accordance with Section VI of the NRC's Enforcement Policy. This LER is closed.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on January 03, 2000. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations. The following finding of very low significance was identified by the licensee as a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as a Non-Cited Violation (NCV).

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV 50-251/00-05-01	TS 6.8.1.a requires that written procedures shall be established, implemented, and maintained covering the activities referenced in Appendix A of Regulatory Guide 1.33. Refueling and Core Alterations are included in that Appendix. Two examples were identified where a fuel assembly was placed in the wrong spent fuel pool location. On October 2, 2000 and again on October 3, 2000, during de-fueling of the core, personnel incorrectly verified the Spent Fuel Pool location of a fuel assembly and placed the fuel assembly in the wrong location. Both examples were contrary to procedural requirements in 4-OP-040.2, Refueling Core Shuffle. One of the assemblies did not meet the TS 3.9-1 burnup requirements for storage in the location in which it was initially placed. These issues are described in the licensee's corrective action program in CR's 00-1759 and 00-1771.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

S. Franzone, Licensing Manager
G. Hollinger, Work Control Manager
R. Hovey, Site Vice-President
D. Jernigan, Plant General Manager
T. Jones, Operations Manager
J. Kirkpatrick, Protection Services Manager
M. Lacal, Training Manager
D. Lowens, Quality Assurance Manager
R. Rose, Maintenance Manager
E. Thompson, License Renewal Project Manager
D. Tomaszewski, Site Engineering Manager
J. Trejo, Health Physics/Chemistry Supervisor
A. Zielonka, System Engineering Manager

Other licensee employees contacted included office, operations, engineering, maintenance, chemistry/radiation, and corporate personnel.

ITEMS OPENED, CLOSED, AND DISCUSSED

Items Opened and Closed

NCV 50-251/00-05-01		Failure to Follow Procedural Requirements During Fuel Shuffle (4OA7)

Previous Items Closed

50-251/2000-04-00	LER	Loss of Offsite Power and Safety Injection Actuation While in Mode 3 (4OA3)
50-251/2000-03-00	LER	Emergency Containment Filter Charcoal Failure to Meet Surveillance Acceptance Criteria (4OA3)
50-251/2000-02-00,01	LER	Containment Ventilation System Inoperable Due to Missed Surveillance (4OA3)

LICENSEE PROCEDURES USED DURING INSPECTIONS OF 1R02 AND 1R17:

ENG-QI 1.0, “Design Control,” Rev 12
ENG-QI 1.1, “Engineering Package (EP),” Rev 5
ENG-QI 1.2, “Minor Engineering Package (MEP),” Rev 7
ENG-QI 2.0, “Engineering Evaluations,” Rev 7
ENG-QI 2.1, “10 CFR 50.59 Screening / Evaluation,” Rev 3

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and

increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Attachment